

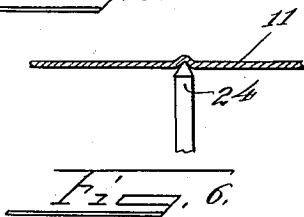
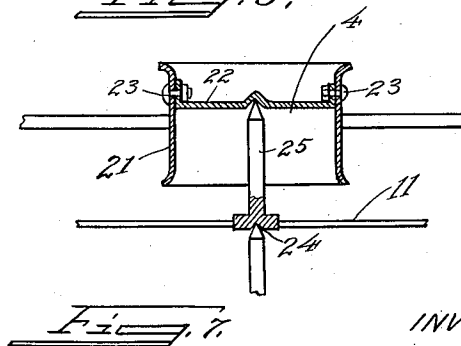
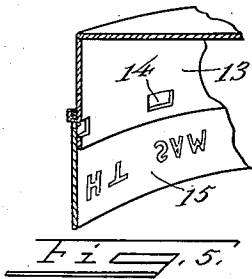
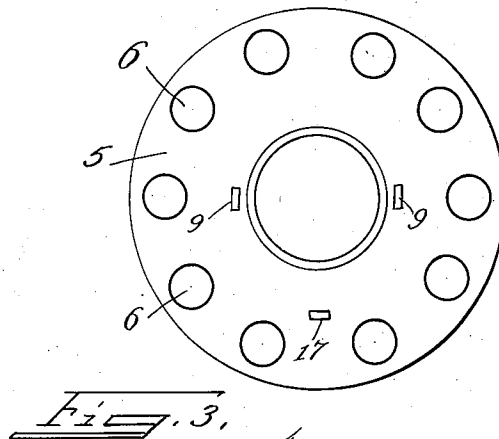
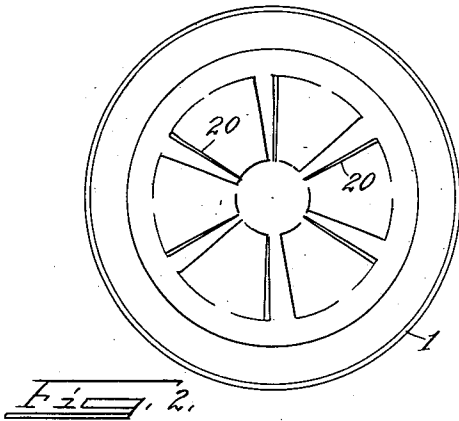
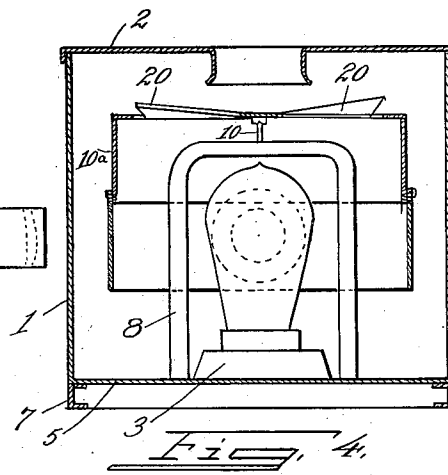
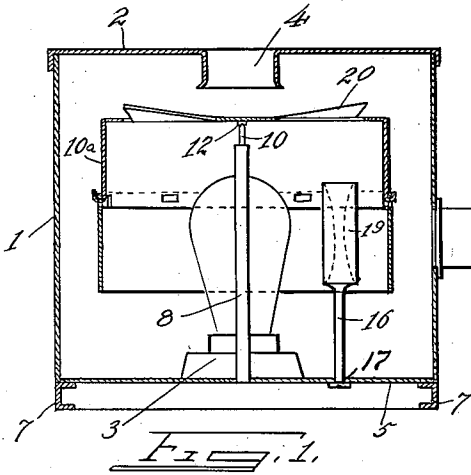
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B. B. ISAACS ET AL

PROJECTING LANTERN

Filed Apr. 12, 1922



INVENTOR:

Bernhard Bischof Isaacs
James C. Marqua
BY

Allen & Allen
ATTORNEYS.

UNITED STATES PATENT OFFICE.

BERNHARDT BISCHOF ISAACS AND JAMES E. MARQUA, OF CINCINNATI, OHIO,
ASSIGNORS TO THE J. E. MARQUA COMPANY, OF CINCINNATI, OHIO, A COR-
PORATION OF OHIO.

PROJECTING LANTERN.

Application filed April 12, 1922. Serial No. 551,995.

To all whom it may concern:

Be it known that we, BERNHARDT BISCHOF ISAACS and JAMES E. MARQUA, citizens of the United States, and residents of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Projecting Lanterns, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

Our invention relates to lanterns for projecting more especially a moving text message, although it may be employed for other purposes.

There are numerous devices on the market for projecting on a screen or wall, a traveling or moving text message, in which several words or parts of words at a time appear on the image and complete sentences or phrases may be read by watching the words and letters as they travel across the image.

So far as we are advised these devices are uniformly complicated and expensive and must be operated by motors which are of themselves quite an added expense.

It is our object to provide a very simple device for the above purpose, wherein we entirely depart from the principles of the motion picture art, and by inexpensive, though entirely adequate means, provide a lantern which answers the full purpose of a text exhibiting machine.

Among other things it is our object to supply movement to our device by employing the heated air rising from the illuminating lamp or arc as a generative force.

We also propose to suspend the message or text in the path of the light and lenses by means of a drum on the rim of which the message is suspended.

These objects and other advantages we accomplish by that certain construction and arrangement of parts to be hereinafter more specifically pointed out and claimed.

In the drawings,

Figure 1 is a side elevation of the device with the casing removed to show the interior thereof.

Figure 2 is a top plan view of the device with the lid removed.

Figure 3 is a bottom plan view of the device.

Figure 4 is a like view to Figure 1 taken at right angles thereto.

Figure 5 is a perspective detail of the method of mounting the text strip on the drum.

Figure 6 is a detail of the drum mounting device in its simplest form.

Figure 7 is a detail of another method of mounting the drum.

Referring to the drawings in which it will be understood we merely intend to illustrate one form of mechanism constructed according to our invention, we show a cylindrical casing 1 having a lid 2. On the bottom of the casing is a light socket 3 in which is a lamp bulb of suitable candle power. The lid of the casing has a port 4 and the bottom 5 of the casing has a series of ports 6 therein.

Any simple form of supporting strip or legs 7 may be used to elevate the bottom and permit air to rise through the casing and pass out through the top port because of the heat imparted by the lamp.

A U-shaped frame 8 is mounted in the bottom of the casing by inserting its legs through slots 9 and turning them outwardly. This casing straddles the light out of the way of the condensing lens and carries on its top bar a pointed pin 10.

The drum 10^a has a top 11 in which is a depression 12 to seat over the end of the pin 10. The side of the drum, as illustrated at 13, has punched-out portions 14, which are turned up to form hooks. The text message, picture strip or whatever device it is intended to project by the lamp and lenses is made up in the form of a strip 15 having the text or what not suitably inverted. This strip has holes in it by means of which it is suspended on the hooks formed by the members 14.

A standard 16 is erected on the casing base by means of inserting the end through a slot 17 and bending over or riveting, and in this standard is mounted a condensing

lens and tube device 19, so that the rays of light from the lamp pass through the condensing lens, thence through the suspended tape or band bearing the text, and thence
5 through the projecting tube.

The top of the drum is formed by cutting slits therein and bending out the portions freed by the slits into a series of radiating fan blades 20.

10 The result of this is that the heated air rising through the drum imparts rotation to the same because of the fan. The size of the drum and exposed area at the blades must be so arranged that the text message
15 travels slowly enough to permit the message to be read. The diameter of the drum is thus greater than its height and comparatively slow revolution is provided.

As a form of mounting involving more expense, but providing security against sudden blasts or draughts of air imparting a rocking motion to the drum, we provide that modification shown in Figure 7. In this
20 view the drum and casing are indicated as in the above description as is the post, supported on the lamp straddling frame.

In the port of the casing is inserted a tube 21 in which is arranged a cross strap 22. This strap is held adjustably in the tube by
30 means of bolts 23 engaging in slots in the turned-up ends of the strap.

The drum in this instance has an inset piece at its center presenting a socket 24 to the supporting post. The piece has also
35 an upwardly extending pin portion 25, which has a pointed end. This pointed end engages in a depression in the cross strap 22. In the modified form of drum mounting there can be no rocking of the drum and in
40 both cases the drum revolves without any appreciable friction. Also in both cases the removal of the lid exposes the drum for ready removal. The cross strap in the modified form is made adjustable for giving the
45 correct amount of bearing and by making the slots in the cross strap large enough, the strap can be adjusted laterally as well as vertically, thereby allowing for inaccuracies in the fit of the lid.

50 Having thus described our invention, what we claim as new and desire to secure by Letters Patent, is:—

1. In a projection machine, the combination with a source of light and a projection
55 lens, of a linear member formed with an object comprising a series of transparent letters to provide a text message through which the light will pass and thence through the lens to project an image of said object, and
60 means for mounting said linear member in a circle about said light, and means for re-

volving the linear member in said circular form, for the purpose described.

2. In a projection machine, the combination of a casing, a source of light within the casing, a lens on the casing, means in the casing for revolvably suspending a drum,
65 an object to be projected carried by the drum in a plane to come between the light and the lens, said drum formed with fan blades on its upper surface to impart revolution thereto from the air heated by the source of light and said object comprising a series of transparent objects arranged to provide a continuous message.
70 75

3. In a projection machine, the combination of a casing, a drum, a support for the drum comprising a central pin or the like, secured to the drum, an upper socket piece to engage the pin, a pin engaging a socket
80 in the center of the under side of the drum top and mounted on the casing, and a light mounted on the casing so as to lie within the depending walls of the drum, a projection lens, and means constituting an object
85 on the drum to be projected by the light and lens into the desired image, for the purpose described, said upper socket piece being adjustable in two directions to provide a perfect center for the drum.
90 95

4. In a projection machine, a light, a projection lens, a circular band formed with a stenciled text message, and means for supporting said band between the light and the lens in a horizontal plane, and means for
95 imparting revolution to the circular band, to cause a continuous text image to be projected by the light and lens said means comprising a hot air revolving drum having an open lower end and means for demountably
100 securing the band on the drum so as to depend from the edge thereof at the open lower end.

5. In a projection machine, the combination with a source of light and a projection
105 lens, of a linear member formed with an object comprising a series of transparent letters to provide a text message through which the light will pass and thence through the lens to project an image of said object, and
110 means for mounting said linear member in a circle about said light, and means for revolving the linear member in said circular form, for the purpose described, said means comprising a drum having substantially
115 greater width than height, and said drum having air deflecting openings in its upper end adapted to impart revolution thereto by moving air, and means for rotatably mounting the drum over the lamp.

BERNHARDT BISCHOF ISAACS.
JAMES E. MARQUA.